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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP#4E3112. Metribuzin (Sencor®) in or on Carrots. Amendment of 8/1/86. (Acc. #264192, RCB #1345).

FROM: W. T. Chin, Chemist *W. T. Chin*
Tolerance Petition Section III
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

THRU: Philip V. Errico, Section Head *Philip V. Errico*
Tolerance Petition Section III
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

TO: Hoyt L. Jamerson, PM #43
Minor Uses Officer
Registration Division (TS-767)

and

Toxicology Branch
Hazard Evaluation Division (TS-769)

Under a cover letter dated 8/1/86, the petitioner, IR-4, responded to the deficiencies cited in RCB's memo of PP#4E3112 (L. Kutney, 9/4/84) and submitted additional residue data and revised Sections B and F.

The petitioner has previously proposed, in connection with this petition, a tolerance for the combined residues of the herbicide metribuzin (Sencor®), 4-amino-6-(1,1-dimethyl ethyl)-3-(methylthio)-1,2,4-triazin-5-(4H)-one and its deaminated (DA), diketo (DK) and deaminated diketo (DADK) triazinone metabolites in or on the raw agricultural commodity carrots at 0.3 ppm. The deficiencies identified above are restated, followed by the petitioner's response and RCB's comments/conclusions.

Deficiency 1

The formulation(s) to be used on carrots should be specified in a revised Section B.

Petitioner's Response

The petitioner submits a revised Section B in which the formulation to be used was specified as Sencor® 4 (EPA Reg. No. 3125-314), revised 2/17/86. This label stipulates a 60-day PHI, whereas the previously submitted label, dated 5/30/84, did not stipulate a PHI.

RCB's Comment/Conclusion

The proposed formulation, Sencor® 4 (EPA Reg. No. 3125-314), in the revised Section B is identified as a flowable formulation named Sencor® 4FL as shown in the submitted performance report of Carl Bell. The petitioner is advised to use a consistent name for a given pesticide formulation. RCB considers Deficiency 1 resolved.

Deficiency 3(b)

Storage stability studies submitted indicated significant degradation of metri-buzin residues in frozen storage. Therefore, the additional residue data required should reflect limited harvest to analysis periods (14 days or less)

Petitioner's Response

Samples of the additional residue data conducted in California in 1985 were analyzed immediately after harvest (see the petitioner's response to deficiency 4 below).

RCB's Comment/Conclusion

Deficiency 3(b) has been resolved.

Deficiency 4

Residue data submitted in conjunction with this petition is not adequate for the determination of a tolerance level in carrots. California and Arizona are major carrot producing states and no studies in these areas are submitted. Several additional residue experiments from California and preferably Arizona are required. These studies should reflect the maximum proposed use, analysis for the total residue of concern and some additional validation data including blank crop values and sample chromatograms. The label restriction prohibiting use in Arizona and California should be deleted in a revised Section B when the additional residue data are submitted.

Petitioner's Response

Additional residue data submitted reflect four test plots conducted in California in 1985. Metribuzin (Sencor® 4FL) was applied as a broadcast spray at the rate of 0.75 lb ai/A (3X) on 4/22/85 and 5/14/85. One extra application at the rate of 1.0 lb ai/A (4X) was followed on 6/7/85. Samples were taken on 8/5/85 reflecting a 60-day PHI, then analyzed immediately after harvest. Results are summarized in Table 1 below:

Table 1. Metribuzin and its metabolites (DA,DK, DADK) Found in Carrots

Replication and Plot No.	Residues Found (ppm)*				Total**
	Metribuzin	DA	DK	DADK	
Plot I	0.053	0.024	0.015	ND***	0.092
Plot II	0.055	0.025	0.010	ND	0.090
Plot III	0.061	0.044	0.041	ND	0.146
Plot IV	0.052	0.042	0.022	ND	0.116

* Limit of detection: metribuzin, DA, DK = 0.005 ppm; DADK = 0.1 ppm.

** Not corrected for average recovery and control.

*** ND = none detected.

Non-treated control samples of carrots were fortified with metribuzin, DA, DK and DADK at levels from 0.05 to 1.0 ppm. Recoveries were reported at an average of 71.8%, 110%, 69.2% and 105% for metribuzin, DA, DK and DADK, respectively. All control samples had no detectable levels of metribuzin and metabolites. Sample chromatograms were included. No residue data from Arizona are submitted.

RCB's Comment/Conclusion

At exaggerated rates of 3X and 4X, the combined residues of metribuzin and its metabolites DA, DK and DADK did not exceed the proposed tolerance of 0.3 ppm. Therefore, RCB concludes that the submitted data and the revised label containing the 60 day PHI are adequate to support the proposed tolerance of 0.3 ppm.

No additional residue data were submitted from Arizona. The petitioner explained that they have covered over 90% of the carrot acreage with data from CA, MI, WA, TX, IL, NJ, DE and adjoining states. This explanation is reasonable and acceptable. Accordingly, RCB concludes that adequate residue data are available to support the proposed tolerance of 0.3 ppm for residues of metribuzin in/on carrots that may result from the proposed use.

Deficiency 4 has been resolved.

Additional Consideration 1

The PM was notified in RCB's memo of the subject petition (L. Kutney, 9/4/84) to inform the Federal Register Section that a change should be made in the chemical name for metribuzin in the 40 CFR 180.332. The name in the heading and narrative part of the 40 CFR should be 4-amino-6-(1,1-dimethyl ethyl)-3-(methylthio)-1,2,4-triazin-5(4H)-one and not 4-amino-6-(1,1-dimethyl ethyl)-3-(methylthio)-1,2,4-triazin-6(4H)-one. The petitioner should also note this correction in their future submissions concerning metribuzin and in the current petition.

Petitioner's Response

The petitioner submitted a revised Section F with the correction of the chemical name of metribuzin from 4-amino-6-(1,1-dimethyl ethyl)-3-(methylthio)-1,2,4-triazin-6-(4H)-one to 4-amino-6-(1,1-dimethyl ethyl)-3-(methylthio)-1,2,4-triazin-5-(4H)-one.

RCB's Comment/Conclusion

An EPA letter dated 10/1/84 was included in this submission in which a statement was made to the effect that this revision to 40 CFR 180.332 will be proposed by the Agency. Therefore, RCB considers that the needed revision in the chemical name of metribuzin is resolved.

Additional Consideration 2: Meat, Milk, Poultry and Eggs

The feed item involved in this petition is cull carrots can constitute up to 30% of cattle feed and up to 10% of poultry feed. Contribution from this feed item has been previously evaluated in this petition and RCB has concluded that any secondary residues resulting in meat, milk poultry and eggs will be covered under presently established tolerances for metribuzin (L. Kutney, 9/4/84).

RECOMMENDATION

TOX considerations permitting, RCB recommends for the establishment of the proposed tolerance for the combined residues of metribuzin and its metabolites DA, DK and DADK in or on carrots at 0.3 ppm.

cc: Circu., R.F., SF(metribuzin or Sencor®), EAB, PP#4E3112, EEB TOX, PM#43,
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